

Chapter 4: Developing a fax application

Meridian IVR Fax Response is an extension of the Meridian IVR application. To develop a Meridian IVR Fax Response application, you should have a good background in UNIX, telecommunications technology, and programming. It is helpful if you take a course on developing a Meridian IVR application.

Meridian IVR Fax Response can do the following:

- Send and receive multipage faxes to or from a destination group 3 fax device.
- Convert ASCII data to fax-ready format with a selection of fonts and character sizes.
- Convert tiff data to fax-ready format.
- Overlay data (for example, text, signature, or logos) onto the fax data.

The cells provide seamless integration between Meridian IVR and Meridian IVR Fax Response, and allow integration with host connectivity (3270 or VT100) and/or the SQL database.

The following Meridian IVR Fax Response functions are available with the fax cells:

Fax Same Call Send With Fax Same Call Send, you can send a fax back to a caller on the same call. The caller's phone must be connected to a fax machine.

Fax Same Call Receive With Fax Same Fax Call Receive, you can receive a fax.

Callback Send With Callback Send, you can queue a callback fax for subsequent transmission. This is used for callers who do not have a fax machine attached to their phone, or for sending faxes at specified times or dates.

In addition to developing applications for fax on your Meridian IVR application, you can view and edit your faxes with the Fax View/Edit utility which allows you to delete pages or merge information from different sources.

You can also use the Meridian IVR Fax Response Data Concatenation (DCAT) cell to develop fax documents at run time. Therefore, you can send customized faxes on each call, add a company cover sheet with each fax, or merge fax documents.

Building applications

Before you begin building an application, you must understand the basic concepts of Meridian IVR application development. For information on application development, see the *Meridian IVR Application Development Guide* (NTP 555-9001-310). You need to read and be familiar with the concepts in the following chapters of that guide:

- Chapter 1: “Understanding applications”
- Chapter 2: “Understanding cells”
- Chapter 3: “Building applications with the graphical Application Editor”

Meridian IVR applications can be developed using fax cells to send or receive faxes. The main components of Meridian IVR applications are the following:

Cells These are the building blocks of each application. You customize different cells to build your application.

Buffer This is a temporary storage place of information that is passed from cell to cell.

The Meridian IVR Graphical Application Editor (XAE) provides seven new fax cells that allow you to use Meridian IVR Fax Response in your application.

Fax Same Call Reserve (FRSV) The Fax Same Call Reserve cell reserves a fax modem for the exclusive use of the calling Meridian IVR application.

Fax Same Call Release (FRLS) Fax Same Call Release releases the modem previously reserved by the Meridian IVR application.

Fax Same Call Send (FSND) This cell allows you to send a fax during the same call when it was requested. This is done if the caller is calling from a phone attached to a fax machine.

Fax Same Call Receive (FRCV) Fax Same Call Receive allows the application to receive a fax from the caller.

Fax Callback Send (CFAX) This cell allows you to schedule delivery of a fax at some later time.

Two new file manipulation cells provide you, the developer, with the ability to write Meridian IVR applications that create faxes dynamically:

Data File Create/Concatenate (DCAT) The DCAT cell creates or appends data to a data file.

File Delete (FDEL) The FDEL cell deletes one or more files.

Designing an application

Before you begin to build an application, you should sketch the general call flow on paper. The following steps guide you through the process of creating a call flow diagram that shows all of the cells in the application:

- 1 Turn to Chapter 3, “Building applications with the Application Editor”, in the *Meridian IVR Application Development Guide* (NTP 555-9001-310), and review the section on cell types. Choose the cell types you need.
- 2 Turn to Chapter 7, “Cell catalog”, in the *Meridian IVR Application Development Guide* for a complete description of the cell types which you have chosen, and make sure that they are appropriate. Refer also to the section “**Fax cells**” on page 4-11 of this guide for a detailed description.

- 3 Sketch a call flow diagram that shows the cells and the branches from one cell to another. Chapter 7, “Cell catalog”, in the *Meridian IVR Application Development Guide* describes the branches each cell type may take.
- 4 Give each cell a meaningful name.
- 5 Show the buffers that are used or updated. Chapter 7, “Cell catalog”, in the *Meridian IVR Application Development Guide* explains how each cell type uses and updates buffers.

Now that you know how your application looks, you can select the prompts that you want to use. The following sections give further clarification on how to build the different types of Meridian IVR applications.

Using a sample application

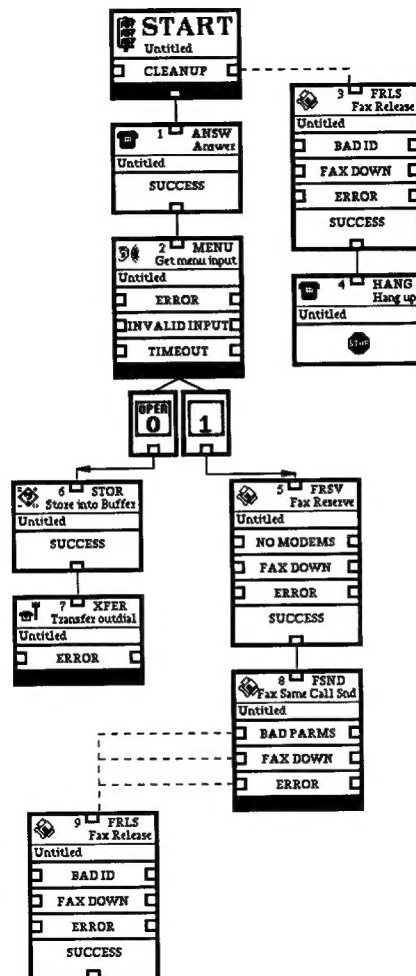
The following applications allow you to learn the basic ideas behind creating Meridian IVR applications:

- sending a fax during the same call
- receiving a fax during the same call
- scheduling delivery of a fax

Sending a fax during the same call

Figure 4-1 shows an application called Fax Same Call Send that allows Meridian IVR to send a fax to a caller.

Figure 4-1
Fax Same Call Send application



Cell 1 An ANSW (Answer Call) cell answers the phone call.

Cell 2 This MENU (Play Menu and Get Data) cell gives the caller two choices:

- Transfer the caller to an operator by pressing 0.
- Select a fax to be sent by pressing 1.

Cell 3 FRLS (Fax Same Call Release) calls a fax cell to release the Fax modem in case the send fails or the call hangs up before the fax transmission is started.

Cell 4 A HANG (Hang up) cell lets the call hang up.

Cell 5 FRSV (Fax Same Call Reserve) calls a fax cell to reserve a Same Call Fax modem for the exclusive use of the calling Meridian IVR application. The parameters of FRSV are the following:

- Call audit enabled
- Call audit information
- Reserve Wait time
- Fax Modem ID (returned from FRSV and sent to FSND)

Cell 6 A STOR (Store) cell stores the operator number in the system buffer.

Cell 7 An XFER (Transfer Outdial) cell transfers the call to the operator.

Cell 8 FSND (Fax Same Call Send) is used to send the fax to the caller. If there is an error, the call branches back to the operator. If the fax is sent successfully, the cell never returns. The parameters of FSND are the following:

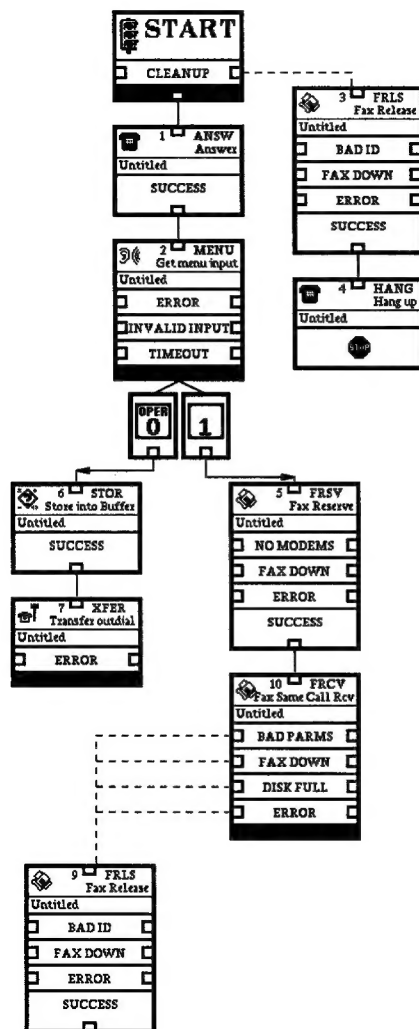
- Call audit enabled
- Call audit information
- Fax modem ID (returned from FRSV and sent to FSND)
- File name
- Resolution
- TTI
- Station ID

Cell 9 FRLS (Fax Same Call Release) calls a fax cell to release the Fax modem, in case the send fails due to errors. Errors can occur if there are wrong or missing parameters, if Meridian IVR Fax Response is not running, or if there is an internal Meridian IVR Fax Response error.

Receiving a fax during the same call

Figure 4-2 shows an application called Fax Same Call Receive that allows Meridian IVR Fax Response to receive a fax from a caller. When the person calls, they are presented with an option to go to an operator or to send a fax. If they opt to send the fax, the system then reserves a fax modem and receives the fax.

Figure 4-2
Fax Same Call Receive application



Cell 1 An ANSW (Answer Call) cell answers the phone call.

Cell 2 This MENU (Play Menu and Get Data) cell gives the caller two choices:

- Transfer the caller to an operator by pressing 0.
- Select a fax to be sent by pressing 1.

Cell 3 FRLS (Fax Same Call Release) calls a fax cell to release the Fax modem in case the send fails or the call hangs up before the fax transmission is started.

Cell 4 A HANG (Hang up) cell lets the call hang up.

Cell 5 FRSV (Fax Same Call Reserve) calls a fax cell to reserve a Same Call Fax modem for the exclusive use of the calling Meridian IVR application. The parameters of FRSV are the following:

- Call audit enabled
- Call audit information
- Reserve Wait time
- Fax Modem ID (returned from FRSV and sent to FSND)

Cell 6 A STOR (Store) cell stores the operator number in the system buffer.

Cell 7 An XFER (Transfer Outdial) cell transfers the call to the operator.

Cell 9 FRLS (Fax Same Call Release) calls a fax cell to release the Fax modem in case the send fails due to errors. Errors can be caused if there are wrong or missing parameters, Meridian IVR Fax Response is not running or if there is a Meridian IVR Fax Response internal error.

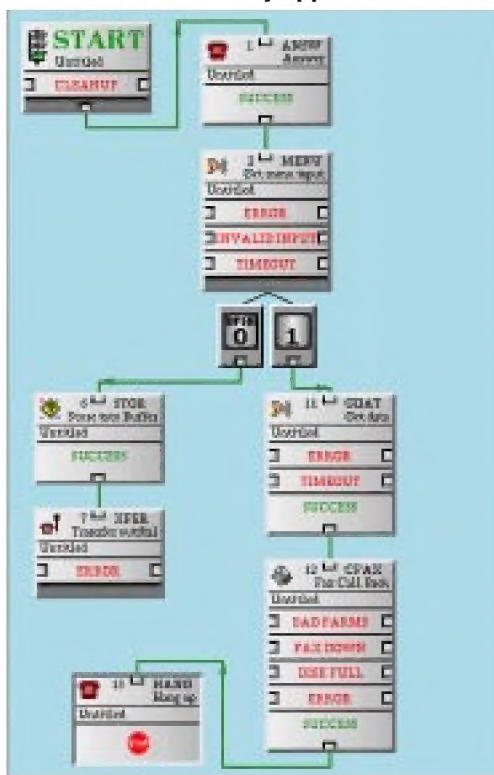
Cell 10 FRCV (Fax Same Call Receive) is used to receive the fax from the caller. The parameters of FRCV are the following:

- Fax Modem ID
- File name

Scheduling delivery of a fax

Figure 4-3 shows an application called Fax Scheduled Delivery that allows Meridian IVR Fax Response to schedule delivery of a fax to a caller. When callers dial in to the system, they are presented with an option to go to the operator or to schedule delivery of a fax. The system then requests the telephone number of the fax machine and obtains the basic fax cell buffer information from the system. It is queued up for delivery at some scheduled time.

Figure 4-3
Fax Scheduled Delivery application



Cell 1 An ANSW (Answer Call) cell answers the phone call.

Cell 2 This MENU (Play Menu and Get Data) cell gives the caller two choices:

- Transfer the caller to an operator by pressing 0.
- Select a fax to be sent by pressing 1.

Cell 6 A STOR (Store) cell stores the operator number in the system buffer.

Cell 7 An XFER (Transfer Outdial) cell transfers the call to the operator.

Cell 11 A GDAT (Play Prompt and Get data) cell is used to request a fax number and then to pass that number to a CFAX cell.

Cell 12 CFAX (Fax Callback Send) is used to queue the fax for delivery to the caller. If the fax is sent successfully, the system plays a prompt informing the caller that the fax was sent successfully.

Cell 13 This is a HANG (Hang up) cell.

Fax cells

There are seven fax cells available for adding Meridian IVR Fax Response to a Meridian IVR application:

- Fax Callback Send (CFAX)
- Fax Same Call Reserve (FRSV)
- Fax Same Call Release (FRLS)
- Fax Same Call Receive (FRCV)
- Fax Same Call Send (FSND)
- Data Concatenation (DCAT)
- Fax Delete (FDEL)

CFAX - Fax Callback Send

Description

This cell queues a fax for subsequent delivery to a specified phone number.

Since faxes may be queued for transmission at a later time, no mechanism exists for a Meridian IVR application to monitor the status of the fax in the callback queue.

Note: When Meridian IVR initiates a Callback Send Fax, the outbound call is billed to the fax modem DN.

Buffers used

CFAX uses the buffers specified by the following parameters: Phone number, File name, Resolution, TTI, Station ID, Delete after send, Number of attempts, Retry interval, and Send time.

Buffers updated

CFAX updates the Fax document ID buffer.

Parameters

Parameters	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer This information is logged if this value is set to YES.
Call audit information	DIGITS	When you enable call auditing, that process logs the contents of this buffer to the audit_stat.d file.
Phone number	NONE	The phone number for which the fax is destined.
File name	NONE	The name of the fax file to send.
Resolution	"default"	The resolution of the fax which can be "default", "standard", or "fine". Setting the value to "default" automatically sets the resolution to "fine".
TTI	"default"	The TTI line to display at the head of each fax page.
Station ID	"default"	The station ID to send to the other modem. If possible, the length should not exceed 20 characters.
Delete fax after send	"yes"	Whether or not to delete the fax after it has been sent.

Parameters	Initial value	Explanation
Number of attempts	0	The number of times that the system attempts to send the fax. “0” indicates the default value configured in the system parameters screen.
Retry interval (minutes)	0	The minimum amount of time to wait after an unsuccessful send attempt, before attempting to resend the fax. “0” indicates the default value configured in the system parameters screen.
Send time	+00:00:00	The earliest time to attempt the first fax transmission. You can specify time as an absolute or relative time. Absolute time is specified in the 24-hour format (“hh:mm:ss”), in which case the fax is sent at a specified time, either on the current day or the next day. Relative time is specified in the following format (“+hh:mm:ss”), in which case the fax is sent when the specified time has elapsed, with a maximum value of +99:59:59. If this parameter is an empty string, the fax is scheduled for immediate delivery. Note: The :ss or :mm:ss parts of the time can be omitted and default to :00 and :00:00, respectively.
Fax Doc ID	FAX DATA	A Doc ID number the system assigns to a callback fax in the queue.

Next cell

Next cell	Explanation
Bad parms	An invalid buffer value is detected.
Fax down	The fax was not queued because the system is down.
Disk full	The operation is not allowed because the disk has exceeded its "disk full warning threshold".
Error	Miscellaneous error conditions.

Tables

None.

The calling application must not reserve a fax modem via the Fax Same Call Reserve subroutine. All modem communications, including requests to send a Callback fax, are handled by the Callback Server.

FRSV - Fax Same Call Reserve

Description

This cell reserves a Same Call Fax modem for the exclusive use of the calling Meridian IVR application. You can place a time limit on how long the application waits until a modem becomes available.

Buffers used

FRSV uses the Fax Reserve time buffer — the amount of time the application is willing to wait for a modem to become available.

Buffers updated

FRSV returns the Fax Modem ID for the fax modem now reserved for use by the calling application. The Modem ID is used by FSND and FRCV.

Parameters

Parameter	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer
Call audit information	DIGITS	When you enable call auditing, that process logs the contents of this buffer to the audit_stat.d file.
Reserve wait time	0	The time in seconds that the application waits if no fax modems are currently available. "0" means the default time configured in the system parameters. Note: There is no maximum value for the reserve wait time.
Fax Modem ID	FAX DATA	Fax Modem ID returned by a previous call to FRSV.

Next cell

Next cell	Explanation
No modems	Fax reserve is unsuccessful due to lack of available modems.
Fax down	Fax system is down (not started).
Error	Miscellaneous error condition.
Success	A fax modem was reserved successfully.

Tables

None.

FRLS - Fax Same Call Release

Description

FRLS allows you to release a modem reserved by Fax Same Call Reserve (FRSV) if the application fails to release or use the modem within the three-minute modem reserve time.

You only use this cell if a modem is reserved and never used for fax transmission.

Note: You cannot change the modem reserve time.

Buffers used

FRLS uses the contents of the Fax Modem ID buffer.

Buffers updated

None.

Parameters

Parameter	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer
Call audit information	DIGITS	When you enable call auditing, this process logs the contents of this buffer to the audit_stat.d file.
Fax Modem ID	FAX DATA	Fax Modem ID returned by a previous call to FRSV.

Next cell

Next cell	Explanation
Bad ID	The Fax Modem ID of the fax modem reserved by FRSV is incorrect.
Fax down	Fax system is not running.
Error	Miscellaneous error condition.
Success	A fax modem was successfully released.

Tables

None.

FRCV - Fax Same Call Receive

Description

The Fax Same Call Receive cell receives a fax during the same call, provided that a same call fax modem was previously requested through Fax Same Call Reserve.

Buffers used

FRCV uses the buffers specified by the Fax modem ID and File name parameters.

Buffers updated

None.

Parameters

Parameter	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer
Call audit information	DIGITS	When you enable call auditing, that process logs the contents of this buffer to the audit_stat.d file.
Fax Modem ID	FAX DATA	Fax Modem ID returned by a previous call to FRSV.
File name	NONE	The name of the fax file in which to store data.

Next cell

Next cell	Explanation
Bad parms	The call was not successfully transferred to the fax modem.
Fax down	The call was not successfully transferred to the fax modem because the fax system was down.
Disk full	The operation is not allowed because the disk has exceeded its "disk full warning threshold".
Error	Miscellaneous error conditions.

Tables

None.

If the call is successfully transferred to the fax modem, the cell does not return, and the Meridian IVR channel is free to service new calls.

If the fax is not successfully transferred to the fax modem, control is returned to the calling application which then releases the fax using the Fax Same Call Release cell.

FSND - Fax Same Call Send

Description

Fax Same Call Send allows you to send a fax during the call to the application. You must reserve a fax modem through the Fax Same Call Reserve subroutine to use this cell.

If you are successful in sending your fax, the fax modem is automatically released. However, if the function fails, then you must release the fax modem using the FRLS cell.

Buffers used

FSND uses the buffers specified by the Fax Modem ID, File name, Resolution, TTI, Station ID, and Delete after send.

Buffers updated

None.

Parameters

Parameter	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer
Call audit information	DIGITS	When you enable call auditing, that process logs the contents of this buffer to the audit_stat.d file.
Fax Modem ID	FAX DATA	Fax Modem ID returned by a previous call to FRSV.
File name	NONE	The name of the fax file to send.
Resolution	"default"	The resolution of the fax which may be "default", "standard", or "fine".
TTI	"default"	The TTI line to display at the head of each fax page.
Station ID	"default"	The Station ID to send to the other modem. The length of this string should be limited to 20 characters.
Delete fax after send	"yes"	Whether or not to delete the fax after it has been sent. Setting this parameter to "yes" deletes the fax file and the associated T4 file. It also deletes the generic file and the temporary file that is created before sending the fax.

Next cell

Next cell	Explanation
Bad parms	The call was not successfully transferred to the fax modem.
Fax down	The call was not successfully transferred to the fax modem because the fax was down.
Error	Miscellaneous error conditions.

Tables

None.

DCAT - Data Concatenation

Description

DCAT allows you to mix variable and fixed data from files and text buffers dynamically as part of a Meridian IVR call flow. DCAT also allows you to send customized faxes to a caller in response to varying conditions and/or caller input. For more information, see [“Customizing faxes” on page 4-28](#).

DCAT can perform the following four related functions, each of which is described in detail below:

- Create a new empty file and append text from buffer(s).

The DCAT function creates a new file and places into it any text supplied in one to nine input buffers. The buffers are concatenated to the end of the file in sequence. If the file to be created already exists, it is truncated to zero before the buffer contents are added.

- Append text from buffer(s) to an existing file.

The second DCAT function places into a file any text supplied to it in up to nine input buffers. The buffers are concatenated to the end of the file in sequence. If the file does not already exist, it is created before the buffers are added.

- Create a new empty file, and append it to another file.

This function creates a new file which it appends to any files (one to nine) whose names are given in the input buffers.

These files are concatenated to the end of the output file in order. If the output file to be created already exists, it is truncated to zero before the given files are appended. Input/output file name conflicts are detected.

- Append a file to an existing file.

This DCAT function appends to a given output file any files whose names are given in the input buffers.

These files are concatenated to the end of the output file in order. If the output file does not already exist, it is created before the given files are appended. Input/output file name conflicts are detected.

Buffers used

DCAT uses the buffers specified by the following parameters: File name, Open mode, Data type, and Data.

Buffers updated

DCAT updates the File name buffer by generating the full path name of the created or appended file.

Parameters

Parameter	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer
Call audit information	DIGITS	When you enable call auditing, that process logs the contents of this buffer to the audit_stat.d file.
File name	NONE	The name of the output file. If you do not supply a file name, the system creates a unique file name and returns in output buffer #1. You can find this file in the fax base data directory. If the file name has the characters "%ch" in it, these three characters are automatically expanded into the three digit, zero filled channel number. For example, if the DCAT request originated from channel #5, the file name "data%ch.tmp" is interpreted as "data005.tmp". Keep in mind that the numbering scheme starts at zero to match the channel numbering scheme used by Meridian IVR (the first channel on the system is channel 0). The characters "%ch" are case sensitive. You must specify these characters in lower case.
Open mode	Overwrite	Whether to overwrite or append to a file if it already exists.

Parameter	Initial value	Explanation
Data type	Value	Whether to treat the "data" input buffers as values or as file names.
Data	NONE	The first line of data (mandatory.)
	NONE	Optional lines of data.
File name used	PATH	The name of the buffer that returns the file name that the system uses as the output file. The File name used can be the file name you specify in the file name buffer or a file name generated by the system if you did not specify a file name.

Next cell

Next cell	Explanation
Failure	When "DCAT" fails to perform the specified data manipulation.
Error	Miscellaneous error conditions.

Tables

None.

Example

A standard fax for a banking application can be stored with certain values left blank such as the client's account balance:

Your current balance is: \$

DCAT can be used to insert the client's account balance into the blank space in the fax:

Your current balance is: \$2 304.18

FDEL - Fax Delete

Description

The FDEL cell deletes one or more files.

Buffers used

FDEL uses the data in the buffer specified by the File names buffer.

Buffers updated

None.

Parameters

Parameter	Initial value	Explanation
Call audit enabled	NO	Determines if this cell logs information to the call audit statistics file (audit_stat.d.) Application name Cell name Cell number Date and Time of cell execution Contents of the cell comment field Contents of the call audit information buffer
Call audit information	DIGITS	When you enable call auditing, that process logs the contents of this buffer to the audit_stat.d file.
File Name	NONE	Name of first file to delete (mandatory).
	NONE	Optional names of other files to delete. You can enter up to nine additional file names in buffers one to nine.

Next cell

Next cell	Explanation
Failure	The file was not successfully deleted.
Error	Miscellaneous error conditions.

Tables

None.

Customizing faxes

Meridian IVR Fax Response provides keywords that enable you to customize your faxes. Faxes can be pre-formatted, or you can format your faxes on-line.

There are two types of fax documents:

- Generic files
- Fax files

Generic files

Generic files are readable text files that you can create and modify in UNIX by using any text editor including “vi”. You can also use tools including the DCAT cell.

Note: A generic file defines how your fax should look, but is not in a format that can be transmitted. You must convert a generic file into a fax file before you can transmit it.

Generic files provide instructions to Meridian IVR Fax Response for designing your fax. Some examples of keywords that contain these instructions include: ECHO, FASCII, FASCII2, FAX, FAX 2, FAX 3, FONT, INLINE, MARGIN, PAGE, SPACING and TIFF. You can also select specific font styles and sizes and use the FASCII control codes to underline, italicize, or bold your text. For more information, refer to “**Keywords**” on [page 4-30](#).

In addition to keywords, there are modifier commands that affect the keywords. Some examples of modifier commands are INDENT, OVERLAY, RANGE, and TRANSPARENT. These commands can be strung together. For more information, refer to the section, “**Modifier commands**” on page 4-48.

Commands requiring modification using units of measurements may have them stated in inches (i), centimeters (c), or pixels (p). File path names are required by some commands. Pathnames are either absolute (a path that has a leading “/”), or relative (a path that does not have a leading “/”).

In addition to the keywords and the modifiers, you can add comments in your file for documentation purposes. Comments must begin with a number sign (#) character. You can place comments anywhere on a line except within a quoted string.

Note: The system ignores the number sign (#) and all the characters that follow it on that line.

Fax files

Fax files are generic files that have been processed by an image conversion routine and reference nothing but T4 fax pages. Fax files are suitable for printing to a laser printer or for sending to a fax machine.

Generic files are converted into fax files when using the fax cells from the Application Editor, opening a document with Fax View/Edit, or when invoking the “img_create” shell command.

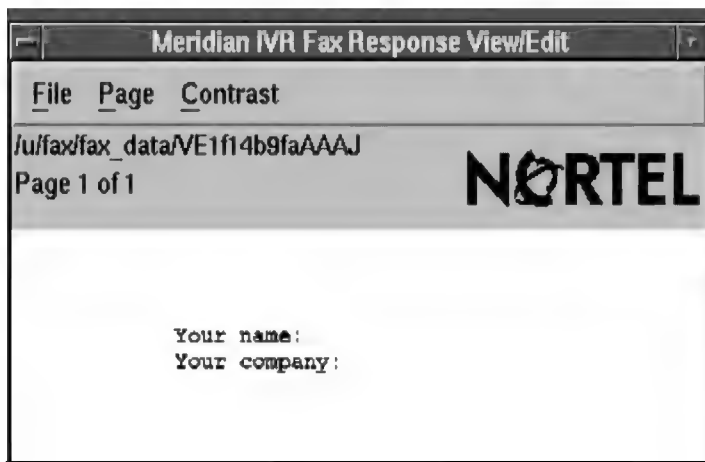
Example of commands used in a generic file

```
MARGIN TOP 1i
MARGIN LEFT 1i
FONT cour18bn
INDENT 1i inline “Your name:”
INDENT 1i inline “Your company:”
```

In this generic file, the margins are measured in inches, the font is specified as Courier 18-point bold normal, and text is entered using the keyword INLINE. Both lines of text are indented one inch using the keyword INDENT.

Figure 4-4 is an example of a fax file.

Figure 4-4
Fax sheet produced based on the fax file



Keywords

ECHO

The ECHO parameter places a comment into the Trace window diagnostic output. This occurs when a document is processed into a fax file.

Table 4-1
ECHO parameters

Keyword	Argument to the command	Modifying the command
ECHO	The comment text	ECHO may not be modified.

You can simplify the debugging process by using the ECHO command. This is because this command emits messages, thus allowing you to monitor the progress.

Line numbers appear before the comment text. The debugging output for ECHO is displayed in the Trace window (see [“Tracing” on page 4-62](#) for more information).

[Figure 4-5](#) shows the text in the system editor.

Figure 4-5
Echo text in the system editor

```
echo # "These commands are for the trim tab characters."

font sihcoe12rn

indent m1 inline "\0x7F phone"
indent 2i inline "\0x80 clock"
indent h1 inline "\0x81 page"
indent 2i inline "\0x82 calendar symbol"
```

Action

In the Trace window output, the following appears:

```
# This is an example of echo.
```

FASCII

FASCII is a page description language used by Meridian Mail and Meridian IVR Fax Response. It stands for fax-compatible ASCII. FASCII is an enhanced ASCII file with extra information added for describing and modifying information on a page. The FASCII command is used to include and convert a single page of a readable ASCII text file using one of the FONTS you specify. [Table 4-2](#) shows the parameters for this command.

Table 4-2
FASCII parameters

Keyword	Argument to the command	Modifying the command
FASCII	The path name of the ASCII text file	FASCII may be modified by INDENT, OVERLAY, or TRANSPARENT.

FASCII converts only what can fit on the current page. Lines that are too long are cut off at the right margin. If the text has too many lines, the text is cut off at the bottom margin.

Lines that are short are padded out to the right margin with blanks.

Below are examples of FASCII commands used in a generic file:

Example 1

FASCII /user/fred/letters/ethel.txt

Action 1

The text file “ethel.txt” is included in the fax file.

Example 2

INDENT 4.5c FASCII application/column2.txt

Action 2

The text file column2.txt is included in the fax file and indented 4.5 cm on the page.

Meridian Mail uses FASCII control codes between 00H and 1FH for underlining, drawing boxes, and italicizing. It supports them in included text files or in generic files. Other codes which specify horizontal or vertical motion are also supported when they appear in included text files but *not* in generic files.

To make embedding of FASCII codes into a line of text easier, the “C” programming language convention that uses a backslash (“\”) to introduce control characters is supported.

FASCII control codes include the following:

Carriage return (0DH) Creates a new line by placing the next character on the next line. This code marks the end of the line.

Null (00H) This code is ignored in fax files. It must not appear in fax files.

Line feed (0AH) This code allows the line to continue by wrapping the next character on the next line.

Vertical tab (0BH) This code must be preceded by a Carriage Return or a Newline; otherwise, it has no effect

Form feed (0CH) When the FASCII command is processed, the system ignores this control code and any characters that follow it in the text file. When the FASCII2 command is processed, this control code causes the text following it to appear on a new page.

Tab (09H) Tabs to the next stop. Intervals between each stop are eight character spaces.

Start of Underline (0FH) The text following this code is underlined.

End of Underline (0EH) The underline command is disabled.

Start of Overline (12H) The text following this code is overlined.

End of Overline (14H) The overline command is disabled.

Block Left (17H) This prints a blank character with a vertical line down the left-hand side of the character.

Block Right (19H) This prints a blank character with a vertical line down the right-hand side of the character.

Italics On (1EH) The text following is italicized.

Italics Off (1FH) The italics command is disabled.

Horizontal Position Cmd (05H) The next byte following this character specifies an offset, expressed in number of space characters, from the left margin. It is used to position the remaining text on the line.

Space (20H) Draws a blank character.

The system ignores all other control characters.

To use the FASCII control codes, type the following **INLINE** keyword.

Example

inline “\0x19\0x12\0x0F This should be a box \0x19\0x14\0x0E”

Action

\0x19 prints a blank character with a vertical line down the right side of the character.

\0x12 starts an overline for the text that follows.

\0x0F starts an underline for the text that follows.

After the text, \0x19 puts a blank character with a vertical line to its right.

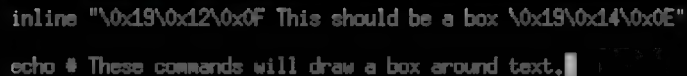
\0x14 terminates the overline.

\0x0E terminates the underline.

The text appears in a box.

Figure 4-6 displays the FASCII control codes in the system editor.

Figure 4-6
FASCII control codes in the system editor



```
inline "\0x19\0x12\0x0F This should be a box \0x19\0x14\0x0E"  
echo # These commands will draw a box around text. [box icon]
```

FASCII Trimtab characters

Trimtabs usually contain your company name, time stamp, phone number, and page number information. They are part of the image generated by the transmitting fax machine. These are available only in the font specifically identified as a trimtab font (simcoe12rn). For more information on trimtab fonts, refer to Appendix A.

You can include the following FASCII trimtab characters in your faxes:

Telephone (7FH) A rotary dial telephone icon.

Clock (80H) An analog clock face.

Page symbol (81H) An icon displaying several stacked pages.

Calendar symbol (82H) An icon displaying a desk calendar.

File symbol (83H) An icon consisting of a file cabinet with one drawer open and a file protruding.

Left arrow (84H) An icon displaying an arrow pointing to the left.

Right arrow (85H) An icon displaying an arrow pointing to the right.

The trimtab characters are used with **INLINE** in the same way as the FASCII characters.

Example
INLINE “\0x7FH 232-4003”

Action

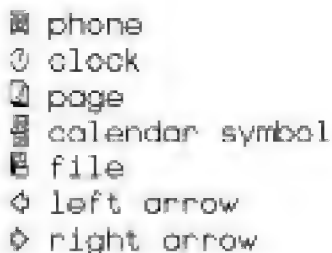
A telephone symbol is placed on the screen next to the phone number.

The following is an example of the trimtab characters you type in the system editor to create trimtab characters.

Example**FONT simcoe12rn****INLINE “\0x7FH phone”****INLINE “\0x80 clock”****INLINE “\0x81 page”****INLINE “\0x82 calendar symbol”****INLINE “\0x83 file”****INLINE “\0x84 left arrow”****INLINE “\0x85 right arrow”**

Figure 4-7 displays the trimtab characters as they appear in the Fax View/Edit window. For more information on Fax View/Edit, refer to **“Viewing/editing your faxes with Fax View/Edit” on page 4-54.**

Figure 4-7
Trimtab characters in Fax View/Edit



- ☎ phone
- 🕒 clock
- 📄 page
- 📅 calendar symbol
- 📁 file
- ⬅ left arrow
- ➡ right arrow

FASCIID2

FASCIID2 is used to include and convert multiple pages of a readable ASCII text file. [Table 4-3](#) shows the parameters for this command.

Table 4-3
FASCIID2 parameters

Keyword	Argument to the command	Modifying the command
FASCIID2	The path name of the ASCII text file	FASCIID2 may be modified by INDENT.

FASCIID2 enables large (greater than one page) ASCII files to be included into generated faxes. Short lines are padded out to the right margin, and long lines that exceed the right margin are simply truncated at the margin. A PAGE command is performed every time the bottom margin is exceeded or the form feed character is encountered.

You should add an explicit PAGE after the FASCIID2 command to ensure that the information included in the fax file by the next command starts at the top of the next page

Example 1

FASCIID2 application/transcript.txt

Action 1

The text file “transcript.txt” is included in the fax file.

Example 2**INDENT 4.5c FASCI12 application/column.txt****Action 2**

The multipage text file “column.txt” is included in the fax file and indented 4.5 centimeters on the page.

FAX

The FAX command includes a T4 file to be resent by Meridian IVR as part of a new fax. This file is truncated at the bottom of the page. Type 4 or T4 is a single page of fax data. Fax files contain one or more references to T4 files. [Table 4-4](#) shows the parameters for the FAX command.

Table 4-4**FAX parameters**

Keyword	Argument to the command	Modifying the command
FAX	The path name of the fax file	FAX may be modified by INDENT, OVERLAY, or TRANSPARENT.

You should plan margin settings and indentation carefully to avoid losing image data at the right or bottom margins when Meridian IVR resends fax data.

You can use the OVERLAY modifier to ensure that a fax page is overlaid at a specific place on the page.

The following examples indicate how OVERLAY, TRANSPARENT, and INDENT may be used with the FAX command:

Example 1**FAX user/fred/faxes/ethelsfax.t4****Action 1**

The T4 file “ethelsfax.t4” is included in the fax file.

Example 2**OVERLAY 2.5i 1.5i TRANSPARENT FAX application/bobsfax.t4**

Action 2

This overlays the T4 file “bobsfax.t4” at 2.5 inches across the page and 1.5 inches down the page. The TRANSPARENT keyword makes the character background transparent for “bobsfax”.

Example 3

INDENT 140p FAX application/probrep.t4

Action 3

The T4 file “probrep.t4” is included in the fax file and indented 140 pixels on the page.

FAX2

The FAX2 command includes a multipage fax file, by adding an implicit PAGE command after the bottom margin is exceeded. Table 4-5 shows the parameters for this command.

You should add an explicit PAGE after the FAX2 command to ensure that the information included in the document by the next command starts at the top of the next page.

Table 4-5
FAX2 parameters

Keyword	Argument to the command	Modifying the command
FAX2	The path name of the fax file	FAX2 may be modified by INDENT or RANGE.

You should plan margin settings and indentation carefully to avoid losing image data at the right margin when Meridian IVR reformats fax data with the FAX2 command.

You should also be careful of where you position the output scan pointer on the output page to avoid splitting image data across output pages at the bottom margin.

The following example indicates how INDENT or RANGE may be used with the FAX2 command:

Example**INDENT 70p RANGE 2:3 FAX2 /user/fred/faxes/ethelsfax.t4****Action**

Pages 2 to 3 of the “ethelsfax” file are indented to 70 pixels and are included in the document.

Note: TRANSPARENT and OVERLAY, both single-page functions, are not compatible with FAX2 multipage format.

FAX 3

FAX3 includes a T4 file. This command is equivalent to issuing a FAX command followed by a PAGE SHORT command. This command includes an explicit page break at the end of the file, thereby wrapping to a new page. You use this command primarily in fax files, but you can also use it when creating generic files.

This command allows fax data received by Meridian IVR to be sent back out again as part of a new fax.

You should plan margin settings and indentation carefully to avoid losing image data at the right or bottom margin when the system encounters a FAX3 command.

You should also be careful of where you position the output scan pointer on the output page to avoid losing image data at the bottom margin when the system encounters a FAX3 command. [Table 4-6](#) shows the parameters for this command.

You can use the OVERLAY command to guarantee that a fax page is overlaid at a specific spot on the page. Once the page has been included in the current document, an implicit page is included to ensure that subsequent operations start on a new page. For more information on the OVERLAY command, refer to the section [“OVERLAY” on page 4-49](#).

Table 4-6
FAX3 parameters

Keyword	Argument to the command	Modifying the command
FAX 3	The pathname of the text file	FAX can be modified by INDENT, OVERLAY, or TRANSPARENT

Example

FONT from10rn

FASCII application/fredsfax.txt

OVERLAY 2.5i 1i TRANSPARENT FAX3 application/bobsfax.t4

INDENT 140p FAX3 application/probrep.t4

Action

The text file “fredsfax.txt” is included in the document using times roman 10 point font. The T4 file “bobsfax.t4” is overlaid onto “fredsfax.txt” 2.5 inches across the page and 1 inch down the page. The TRANSPARENT command makes the character background transparent for “bobsfax.t4”.

FONT

The FONT command specifies the font to be used. The font must be specified separately for some keywords including OVERLAY and TRANSPARENT. [Table 4-7](#) shows the parameters for this command.

Table 4-7
FONT parameters

Keyword	Argument to the command	Modifying the command
FONT	The name of the font file	FONT may not be modified.

FONT specifies the name of the font to be used with the INLINE, FASCII, and FASCII2 keywords. The FONT name remains in effect until the next encountered FONT command. Fonts are stored in the *fonts* subdirectory under the fax base directory.

The convention for naming font files is

NXXWR

The components of the name are defined as follows:

- N: one to nine characters describing the typeface
- XX: the point size (10, 12, 14, 16, 18)
- W: the weight (r,b), where “r” is regular, “b” is bold
- R: the resolution (n,f), where “n” is standard (or normal), “f” is fine

For example, “cour10rn” is a courier font (cour) with 10-point pitch, regular weight, and standard resolution.

Meridian IVR Fax Response provides 61 fonts that are classified into four categories:

- fixed pitch courier font
- proportionally spaced sans serif font
- proportionally spaced serif font similar to a Times Roman typeface
- trimtab font

Excluding the trimtab font, all the fonts have the following attributes:

- available in point sizes of 10, 12, 14, 16, 18
- available in both regular weight and bold weight
- available in both “normal” resolution and “fine” resolution

Table 4-8 shows the list of fonts that you can use for the fax.

Table 4-8
Available 10-point fonts

Courier fonts	Sans serif fonts	Serif fonts
cour10rn cour10rf cour10bn cour10bf	ssrf10rn ssrf10rf ssrf10bn ssrf10bf	trom10rn trom10rf trom10bn trom10bf

For other point sizes, the names are similar but have the appropriate point size included.

The trimtab characters are contained within the font simcoe12rn, a 12-point proportionally spaced font in the simcoe typeface. This upright sans serif face has regular stroke weight and is stored in standard resolution.

See Appendix A for a list of the available fonts and their appearances.

INLINE

This command places a piece of text, specified as a parameter to **INLINE**, into the fax document. **Table 4-9** shows the parameters for this command.

Table 4-9
INLINE parameters

Keyword	Argument to the command	Modifying the command
INLINE	The text string	INLINE may be modified by INDENT, OVERLAY, or TRANSPARENT.

The text string to be imbedded is specified directly after the **INLINE** command and is placed at the current page position. The text must be enclosed in double quotes and can only span one line.

Example

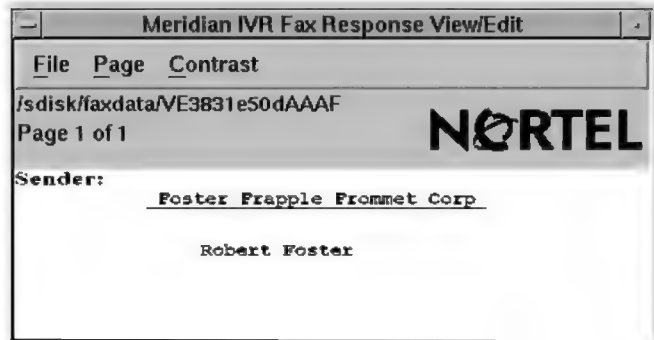
FONT trom18bn
INLINE “Sender:”

FONT trom18bn
OVERLAY 2.5i 1i TRANSPARENT INLINE “Robert Foster”

FONT cour18bn
INDENT 4.5c INLINE “\0x0f Foster Frapple Frommet Corp \0x0e”

The output of the above example in the Fax View/Edit window is seen in **Figure 4-8**.

Figure 4-8
INLINE keyword in the Fax View/Edit window



To insert a piece of text into a fax document that contains the double quote character, you should specify the double quote using its hexadecimal notation of \0x22.

Example

INLINE “\0x22THIS IS A QUOTED STRING\0x22”

Action

The sentence “THIS IS A QUOTED STRING” will be included in the fax.

MARGIN

The MARGIN command sets a value for the top, bottom, left, or right margins. Table 4-10 shows the parameters for this command.

Table 4-10
MARGIN parameters

Keyword	Argument to the command	Modifying the command
MARGIN	The magnitude of the indentation, and the units in which the margin is specified	MARGIN may not be modified.

The page borders are the default values for the margins. Setting the top and left margins shifts the position of output data, whereas setting the bottom and right margins truncates the output data. MARGIN settings remain in effect until the next MARGIN command.

MARGIN unit specifiers are optional but default to pixels if not defined. The unit specifiers are

- i - inches
- c - centimeters
- p - pixels (204 pixels/inch, maximum of 1728 pixels/line)

Margins are usually defined relative to the top left corner of the page. To specify a quality relative to the right-hand side or the bottom of the page, use a negative number. On an 8.5 x 11-inch sheet of paper, the following settings are equivalent to each other:

MARGIN RIGHT 7.5i
MARGIN RIGHT -1.0i

The margin settings below are also valid examples:

MARGIN LEFT 20P
MARGIN TOP 0.5I
MARGIN RIGHT 19.5C
MARGIN RIGHT -1.2C
MARGIN BOTTOM -0.5I

PAGE

The PAGE command allows you to go to the next page. This command ends an output page and indicates that all processing for the current page of the fax is finished. [Table 4-11](#) shows the parameters for this command.

Table 4-11
PAGE parameters

Keyword	Argument to the command	Modifying the command
PAGE	Indicates whether to produce a short or standard length page	PAGE may not be modified.

An implicit PAGE command is performed at the end of the generic file. You can foreshorten pages without adding extra lines, or pad the file out to the full page length.

- **PAGE FILL** Go to a new page filling the rest of the previous page with blank lines.
- **PAGE SHORT** Move to a new page without adding blank lines on the previous page.
- **PAGE** Defaults to the same action as PAGE FILL.

Example

INLINE “page 1”

PAGE FILL

INLINE “page 2”

Action

The PAGE FILL keyword fills the rest of page 1 with blank lines and moves to a new page where “page 2” appears.

SPACING

The SPACING command sets interline or intercharacter spacing for the output of the fax. Table 4-12 shows the parameters for this command.

Table 4-12
SPACING parameters

Keyword	Argument to the command	Modifying the command
SPACING	The magnitude of spacing, in pixels, to be used during conversion of FASCII text	SPACING may not be modified.

The spacing is measured in pixels. The generated spacing depends on the format of the fax. A normal fax has 98 vertical pixels per inch, while a fine format fax has 196 vertical pixels per inch.

The minimum and default number of blank pixels to insert between each line is one, and between each character is zero.

Note: Changes in resolution do not affect interline and intercharacter spacing.

Example 1
SPACING LINE 4

Action 1

A space of four pixels is added between the lines of the fax.

Example 2
SPACING CHARACTER 8

Action 2

A space of eight pixels is added between the characters.

TIFF

The TIFF command converts and includes a Tagged Image File Format (TIFF) file into the fax being created. TIFF is an image storage format that enables you to store multiple images in a single file. Table 4-13 shows the parameters for this command.

Table 4-13
TIFF parameters

Keyword	Argument to the command	Modifying the command
TIFF	The path name of the TIFF file	TIFF may be modified by INDENT, OVERLAY, or TRANSPARENT.

TIFF files may contain multiple images which are listed in the Image File Directory. Meridian IVR Fax Response only processes the first image in the file. Only two color images are supported.

Example 1

TIFF application/page1.tif

Action 2

The TIFF file “page1.tif” is included in the fax file.

Example 2

INDENT 4.5c TIFF application/column2.tif

Action 2

The TIFF file “column2.tif” is included in the fax file and indented 4.5 centimeters on the page.

Example 3

OVERLAY 2.5i 1i TRANSPARENT TIFF application/column1.tif

Action 3

The TIFF file “column1.tif” is included in the fax file and overlaid 2.5 inches from the top of the page, and 1 inch down.

Modifier commands

INDENT

This command indents the next command on the current page to the right from a left margin position. Table 4-14 shows the parameters for this command.

Table 4-14
INDENT parameters

Keyword	Argument to the command	Modifies commands:
INDENT	The magnitude of the indentation and the units in which it is measured, either i, c, or p.	FASCII, FASCII2, FAX, FAX2, FAX3, INLINE, and TIFF

INDENT remains in effect only for the command that it modifies. The indentation is set to zero after that command has been completed.

Example

INDENT 100p FAX application/page1.txt

Action

This indents the fax file by a value of 100 pixels.

OVERLAY

The OVERLAY command sets the output position of the fax page temporarily to a new location on the page. The output position returns to its previous location once the modified command has been completed.

Table 4-15 shows the parameters for this command.

Table 4-15
OVERLAY parameters

Keyword	Argument to the command	Modifies commands:
OVERLAY	Specify the X and Y coordinates for the location of the upper left corner of the bounding box applied to the next command.	FASCII, FAX, FAX3, INLINE, and TIFF

The X and Y parameters indicate the location where the output scan pointer should be placed. This position remains in effect until the completion of the modified command:

- X indicates that the displacement across the page is from the absolute left edge (not the margin).
- Y indicates that the displacement across the page is from the absolute top edge (not the margin)

Note: OVERLAY cannot be used with a multipage document.

Figure 4-9 shows an example of plain overlay and the commands you type to create it.

```
FAX diagonal.t4  
OVERLAY 0i 0i  
FONT cour12rn  
FASCII hello.ascii
```

Figure 4-9
Plain overlay

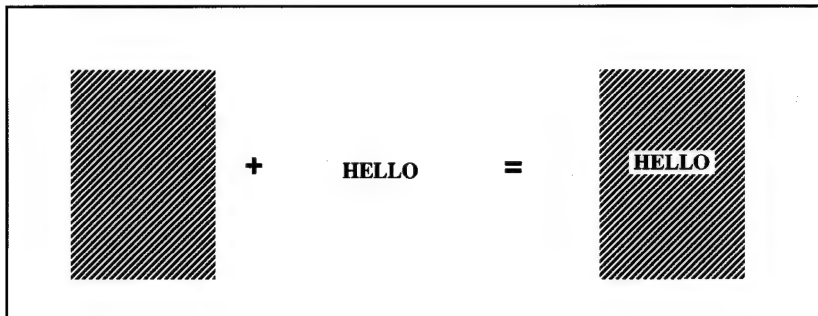
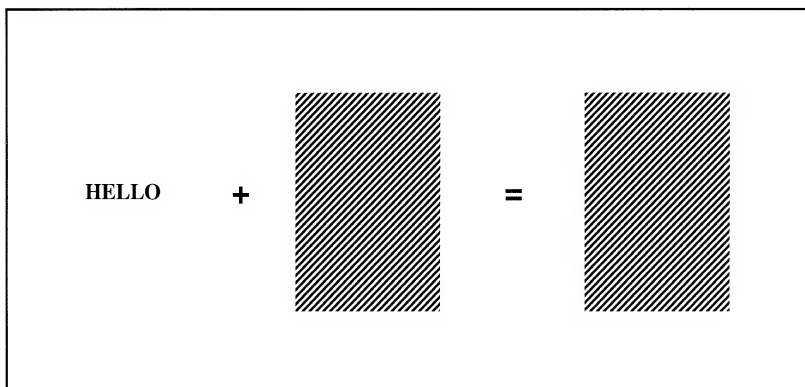


Figure 4-10 shows another example of plain overlay and the commands you type to create it.

```
FONT cour12rn
FASCII hello.ascii
OVERLAY 0i 0i
FAX diagonal.t4
```

Figure 4-10
Plain overlay



RANGE

This command specifies a range of pages to include from a fax file.

Table 4-16 shows the parameters for this command.

Table 4-16
RANGE parameters

Keyword	Argument to the command	Modifies commands:
RANGE	Specifies the range numerically.	FAX2

The pages are included in a subset in the fax data file. The possible arguments are “n”, where n is an actual page number; “n:”, where page number “n” and all pages afterward are included; “n:0”, where the range is from page “n” to page 0.

Example

RANGE 2:4 FAX2 /user/fred/faxes/ethelsfax.t4

Action

This specifies a range from page 2 to page 4.

TRANSPARENT

The TRANSPARENT command makes a text background that is being overlaid onto the page transparent. Table 4-17 shows the parameters for this command.

Table 4-17
TRANSPARENT parameters

Keyword	Argument to the command	Modifies commands:
TRANSPARENT	Indicates whether black or white pixels are treated as transparent. Default is white.	FASCII, FAX, FAX3, INLINE, and TIFF

TRANSPARENT affects only the immediately following command. This command allows characters written onto the current output page to overlay whatever is already there without erasing by writing only the non-transparent pixels to the output.

Note: TRANSPARENT cannot be used with a multipage document.

Figure 4-11 shows an example of TRANSPARENT WHITE and the commands you type to create it.

```
FAX diagonal.t4
OVERLAY 0i 0i
TRANSPARENT WHITE
FONT cour12rn
FASCII hello.ascii
```

Figure 4-11
Overlay with TRANSPARENT WHITE

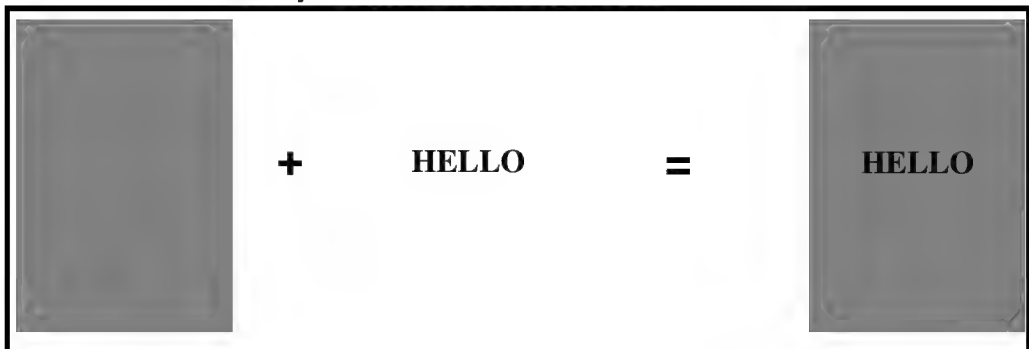


Figure 4-12 shows an example of TRANSPARENT BLACK and the commands you type to create it.

```
FAX diagonal.t4
OVERLAY 0i 0i
TRANSPARENT BLACK
FAX block.t4
```

Figure 4-12**Overlay with TRANSPARENT BLACK**

TTI line

The TTI line is a line of text that fax machines can add to a fax page prior to transmitting the page. This line of text contains information such as the name of the company sending the fax, the phone number of the sending fax machine, the number of pages in the fax, and/or when the fax was sent. The variables include the following:

- %p: the current page number
- %P: the total number of pages
- %f: the document ID
- %d: the current date/time

The TTI line always uses the trimtab font. You can use the trimtab characters in the TTI information line.

Example

“Page %p of %P %d 416 555-1234”

Action

Page 1 of 23 Mon Oct 15 03:00:00 EDT 1993 416 555-1234

The default TTI line is %C %t %z %P %f10 %D %F9. It produces the following line on the fax: 5:42 EDT 001/006 95/02/28.

Note: The TTI line is generated at runtime and is not part of any generic or fax files.

Viewing/editing your faxes with Fax View/Edit

You can view and edit faxes through the Fax View/Edit utility. This utility enables you to do the following:

- print faxes
- view and edit faxes
- delete existing faxes

In addition to inserting and deleting pages from your document, you can invert and rotate your faxes.

To access Fax View/Edit, click on the View/Edit icon in the main Fax window.

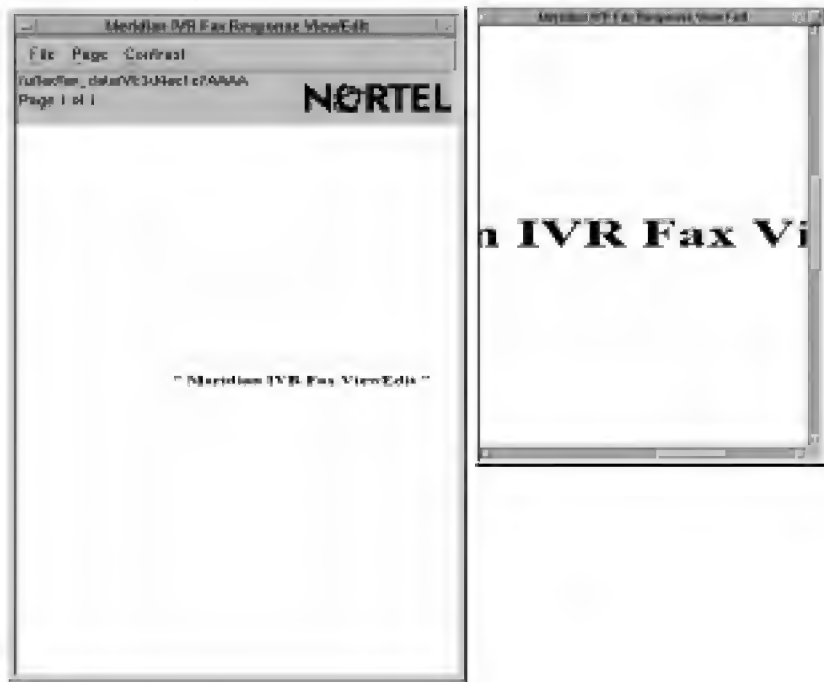
Windows

Meridian IVR Fax Response presents you with two top-level windows:

- *The Meridian IVR Fax View/Edit main window* displays an entire fax page at a 4 to 1 reduction (16 pixels mapped onto 1 pixel). This window contains a menu bar that features File, Page, and Contrast pull-down menus.
- *The Meridian IVR Fax View/Edit FULL window* displays a section of the fax page at a 1 to 1 scale. The window can be resized to the size of the display, or it can be scrolled using scroll bars to view any part of the page. Any section of the main window that you click on with the mouse appears centered in the FULL window.

Figure 4-13 illustrates the View/Edit top-level windows.

Figure 4-13
Fax View/Edit top level windows



Windows menu bar

The View/Edit menu bar displays options for managing your files and manipulating the fax pages inside. You can access the pull-down menus by clicking on the item with the mouse, or by using the mnemonic (an underscored character), or the accelerator (Ctrl + character sequence). **Figure 4-14** illustrates the View/Edit menu bar.

Figure 4-14
Meridian IVR Fax Response View/Edit menu



File

Displays a pull-down menu of options for manipulating files.

Page

Displays a pull-down menu of options for manipulating pages in the fax file.

Contrast

Displays a pull-down menu of options for changing the contrast of a document viewed on-screen.

Using the File menu

The File pull-down menu, as shown in **Figure 4-15**, provides you with the following options:

Open <Ctrl+O> Displays the file browser to open a generic file or fax file.

Save <Ctrl+S> Saves changes to the current fax document.

Save As <Ctrl+A> Saves the document into a new file. The saved file will be in the fax file format.

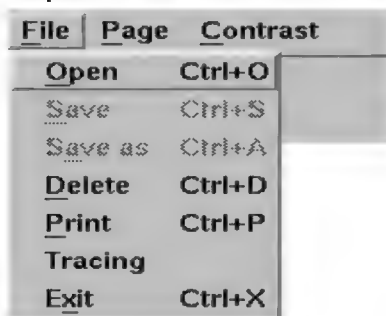
Delete <Ctrl+D> Deletes a fax document.

Print <Ctrl+P> Prints a fax document.

Tracing Turns on the trace option. It is useful when doing image processing on a new or modified generic file.

Exit <Ctrl+X> Exits the View/Edit screen and closes the window. If you have made changes to the file without saving them, Meridian IVR Fax Response prompts you to choose whether or not to exit without saving.

Figure 4-15
File pull-down menu



Opening fax files

You can open fax files through the Fax View/Edit administration window.

Procedure 4-1 **Opening a file**

- 1 In the Meridian IVR Fax Response main menu, click on the Fax View/Edit icon with the left mouse button to access the pull-down menu.

- 2 Click on the option Fax View/Edit with the left mouse button.

(To save time, you can press <Ctrl+O>).

The frames for the Meridian IVR Fax Response View/Edit window and the Meridian IVR Fax Response View Full window appear.

The View/Edit window allows you to view the entire page.

The View Full window magnifies the fax page.

- 3 Move the mouse to place the window frames in a suitable location on the desktop, then click on the left mouse button to open the windows.

- 4 In the Meridian IVR Fax Response View/Edit window, click on File with the left mouse button to access the pull-down menu.

- 5 Click on Open with the left mouse button.

(You can also access this window by pressing <Ctrl+O>).

The Open Document Selection window appears (see [Figure 4-16](#)).

Figure 4-16
Open document selection



- 6 Double-click on the file that you want to open with the left mouse button.

The file name appears in the Selection window.

You can also do the following:

- Type the application name in the Selection text entry box, then click on the OK button with the left mouse button.
- Navigate through the directories, or filter the file names using wild cards. Enter the name of the file that you want to open. This window permits you to browse through a list of files, then select one, or enter a file name directly.

- 7 Click on OK with the left mouse button.

The file you selected appears in both the Meridian IVR Fax Response View/Edit window and the Meridian IVR Fax Response View/Full window.

Note: If nothing appears in the window, the file that you intended to open likely contains fatal errors. Set a trace to determine what these errors are. For further information on setting traces, refer to [“Tracing” on page 4-62](#).

The following explains each part of the Open Document Selection window:

File filter

The dialog displays only those file names that contain the character-string pattern that you specify in this field. The default filter is `/u/fax/fax_data/*.tpl` which displays all file names in the current directory containing the pattern `.tpl`. To use a different filter, enter your own pattern in the Filter selection box, then select the Filter push button to execute the query.

Directories

A list of directories showing the current directory, the parent directory, and any subordinate directories. To select a different directory, click on one of these entries with the left mouse button. A new list is then displayed.

Files

A list of applications in the current directory. You can scroll through these by using the scroll bar, and select a specific file.

Selection

The application file to be selected. Selecting a file name in the Files list displays the name in this box. Otherwise, you can enter a file name directly into this selection box.

Three buttons span the bottom of the window:

OK

A push button that opens the application displayed in the Selection box.

Filter

A push button that executes the File Filter query and displays a list of files that match the filter. Typing <Enter> automatically selects the Filter push button.

Cancel

A push button that returns control to the Application Editor screen without opening a file.

Saving files

You can save a file either under the current name or under a new name.

Deleting files

Procedure 4-4

Deleting a file

- 1 Click on File with the left mouse button to access the pull-down menu.
- 2 Click on Delete with the left mouse button.

(To save time, you can press <Ctrl+E>).

A dialog box appears. You have the choice between deleting the current document or another document.

If you choose to delete the current document, the system immediately removes the image from the screen.

If you choose to delete another document, the Delete Document selection window appears.

- 3 Select the document that you want to delete by clicking on one of the radio buttons with the left mouse button.
- 4 Click on OK with the left mouse button.

Printing files

Fax View/Edit requires a PostScript printer for printing documents, and only fax files can be printed.

Procedure 4-5

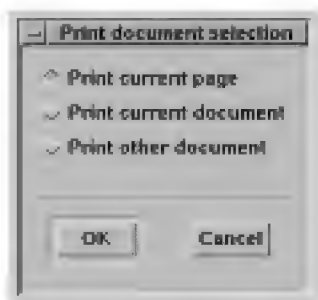
Printing files

- 1 Click on File with the left mouse button to access the pull-down menu.
- 2 Click on Print with the left mouse button.

(To save time, you can press <Ctrl+P>).

The following dialog box appears (see [Figure 4-18](#)).

Figure 4-18
Print document selection window



You can print either the current page, the current document, or another document.

- 3 Click on the radio button next to your choice with the left mouse button, then click on OK.
- 4 Move the pointer to a window running the system shell.
- 5 Enter the appropriate print command for printing .ps files (for example **lp /u/ivr/gen/apps/Leave_Msg.ps**) at the command prompt.

Tracing

The trace option enables you to select a level of informational message generation. The informational messages appear in the Meridian IVR Fax Response Trace window and can be saved to a file.

When to use trace

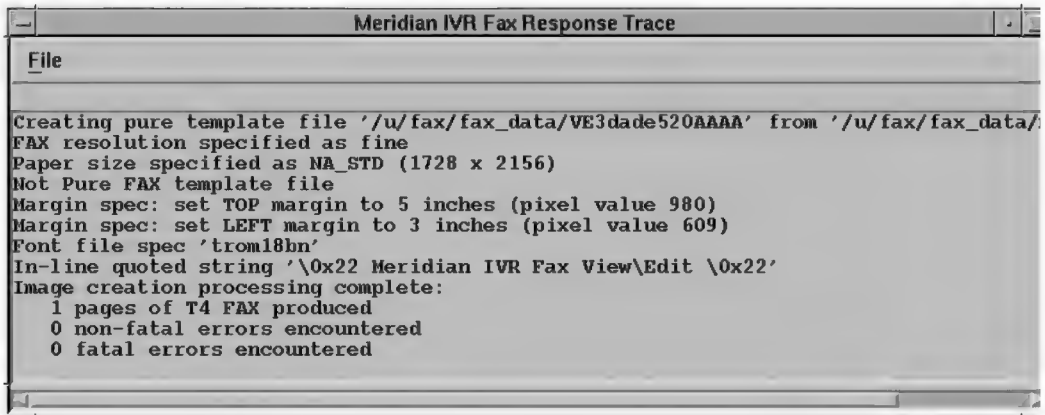
You should use trace to help you process a new or modified generic file. The generic files you create in the vi can be viewed as a fax file using the Fax View/Edit windows. Clicking on trace before trying to open the file gives you access to diagnostic information in case the generic file contains errors and fails to open. Trace explains what errors exist and whether or not they are fatal.

Procedure 4-6 **Using trace**

- 1 Exit out of the vi for your newly created or modified generic file.
- 2 In the Fax View/Edit window, click on File with the left mouse button to access the pull-down menu.

- 3 Click on the Tracing option.
If you click on the File option with the left mouse button to display the pull-down menu again, you will see that the button next to Tracing is pushed in. This indicates that the Tracing function is working.
- 4 Click on the File menu option again with the left mouse button to access the pull-down menu.
- 5 Click on Open with the left mouse button again.
- 6 Open the desired file as explained in [Procedure 4-1](#), "Opening a file".
If the file contains no fatal errors, the Fax View/Edit windows display your fax file. The Trace window, shown in [Figure 4-19](#), explains how many T4 fax pages were produced, and how many fatal or non-fatal errors were encountered.
If the file contains fatal errors, nothing appears in the Fax View/Edit windows. The Trace window explains that no pages of T4 fax were produced and describes the fatal and non-fatal errors.

Figure 4-19
Diagnostic information in the Trace window



- 7 Modify your generic file to remove the errors, then follow steps 1–4 again to open your file.

Once your generic file works properly, you no longer need to use trace.

Procedure 4-7

Exiting a file

- 1 Click on File with the left mouse button to access the pull-down menu.
- 2 Click on Exit with the left mouse button.

(To save time, you can press <Ctrl+X>).

Using the Page menu

The Page pull-down menu, as shown in **Figure 4-20**, provides you with a number of options for page manipulation:

Next <Ctrl+N> Moves to the next page.

Previous <Ctrl+B> Moves to the previous page.

Go to Page <Ctrl+G> Moves to a specified page.

Flip <Ctrl+F> Flips the page 180 degrees.

Save <Ctrl+W> Saves the contents of the current page.

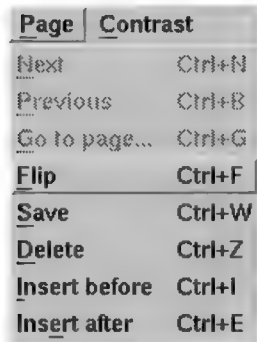
Delete <Ctrl+Z> Deletes a specified page.

Insert Before <Ctrl+I> Inserts a file before a specified page.

Insert After <Ctrl+E> Inserts a file after a specified page.

For example, you can delete a page, such as a cover sheet, from an incoming fax, and then resend it to another location. You can also add content from other faxes into your fax before sending it off.

Figure 4-20
Page pull-down menu



Page	Contrast
Next	Ctrl+N
Previous	Ctrl+B
Go to page...	Ctrl+G
Flip	Ctrl+F
Save	Ctrl+W
Delete	Ctrl+Z
Insert before	Ctrl+I
Insert after	Ctrl+E

Procedure 4-8
Moving to the next page

- 1 In the Meridian IVR Fax Response View/Edit window, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on Next with the left mouse button, or press <Ctrl+N>.
If changes were made to the current page, the system prompts you to indicate whether or not you want to save the changes before moving to the next page.
- 3 Click on YES or NO with the left mouse button.
The system goes to the next page.

Procedure 4-9
Moving to the previous page

- 1 In the Meridian IVR Fax Response View/Edit window, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on Previous with the left mouse button, or press <Ctrl+B>.
If changes were made to the current page, the system prompts you to indicate whether or not you want to save the changes before moving to the previous page.
- 3 Click on YES or NO with the left mouse button.
The system goes to the previous page.

Procedure 4-10

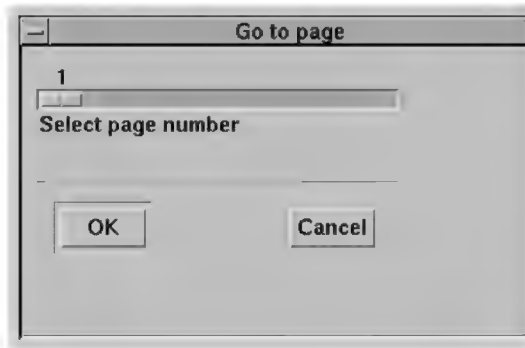
Going to a specified page

- 1 In the Meridian IVR Fax Response View/Edit window, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on Go to Page, or press <Ctrl+F>.

The following Go to page slider window appears (see [Figure 4-21](#)).

Figure 4-21

Go to page slider window



- 3 Click on the slider bar with the left mouse button, then move the slider bar to the page you want.
- 4 Click on the OK button with the left mouse button.

The selected page appears in the Meridian IVR Fax Response View/Edit window.

Rotating the current fax page

Flipping the page allows you to rotate the current fax page by 180 degrees. This enables you to fix the orientation of pages that were fed into the fax machine upside down.

Procedure 4-11

Flipping a page

- 1 In the Meridian IVR Fax Response View/Edit main menu, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on Flip with the left mouse button.
(To save time, you can press <Ctrl+F>).

The system rotates the screen 180 degrees in either direction.

Procedure 4-12

Saving a page

- 1 In the Meridian IVR Fax Response View/Edit main menu, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on Save with the left mouse button.
(To save time, you can press <Ctrl+W>).

The system saves the page.

Procedure 4-13

Deleting a page

- 1 In the Meridian IVR Fax Response View/Edit main menu, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on Delete with the left mouse button.
(To save time, you can press <Ctrl+Z>).

The system deletes the page.

Page insert before

This option enables you to insert one fax file before the current page of the open document.

Procedure 4-14

Inserting a page before the current page

- 1 In the Meridian IVR Fax Response View/Edit main menu, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on the "Insert before" option with the left mouse button.
(To save time, you can press <Ctrl+I>).

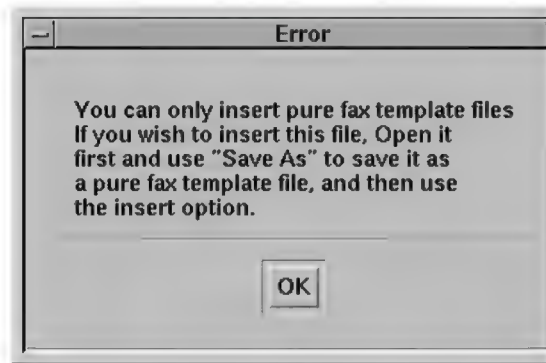
The "insert before" selection window appears. This window allows you to navigate through directories, filter file names, and select the fax file to be inserted.

- 3 Once you have navigated to the selected file, click on the file name with the left mouse button, then click on <OK>.

The system inserts the document.

Note: You cannot insert a generic file into a fax file. If you try to insert a generic file into a fax file, you will see the following error dialog box (see [Figure 4-22](#)).

Figure 4-22
Error box for inserting a generic file into a fax file



Page insert after

This option enables you to insert a fax file after the current page of the open document.

Procedure 4-15 **Inserting a page after the current page**

- 1 In the Meridian IVR Fax Response View/Edit main menu, click on Page with the left mouse button to access the pull-down menu.
- 2 Click on the "Insert after" option with the left mouse button.
A dialog popup window appears. This window allows you to navigate through directories, filter file names, and select the fax file to be inserted.
- 3 Once you have selected the file to be inserted, click on the file name that you want to insert with the left mouse button, then click on <OK>.
The system inserts a page.

Using the Contrast menu

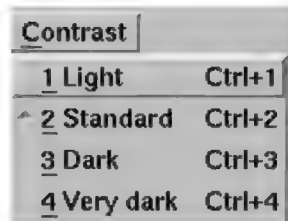
Meridian IVR Fax Response offers you two windows. One window displays an entire fax page at a reduced scale, and the other shows just a section of the fax at full scale.

Contrast allows you to decide how clear the entire, reduced fax display will be, without affecting the clarity of the fax file itself.

The Contrast pull-down menu, as shown in [Figure 4-23](#), provides you with four options for changing the clarity of a fax being viewed on a monitor:

- Light <Ctrl+1>
- Standard <Ctrl+2> - the default setting
- Dark <Ctrl+3>
- Very Dark <Ctrl+4>

Figure 4-23
Contrast pull-down menu



Light

When the original image is very dark, use this option to view detailed areas that are mostly black.

Standard

This contrast should be suitable for most faxes that are handwritten or laser printed in a font size greater than 11 point.

Dark

Dark is typically used when smaller fonts are displayed.

Very dark

This contrast is suitable for documents that have small or very fine font sizes smaller than 10 points.

Procedure 4-16

Setting a level of contrast

- 1 In the Meridian IVR Fax Response Fax View/Edit main menu, click on Contrast with the left mouse button to access the Contrast pull-down menu.
- 2 Click on the contrast level that you want with the left mouse button.

Note: The radio button next to the default Standard is already pushed in.

The pull-down menu disappears, and the image on the full-view screen changes to reflect the level of contrast selected.

Using the Command line tools

The Meridian IVR Fax Response command line tools are programs that run from a UNIX shell to perform fax processing. Since they do not require a graphics monitor, they are convenient for remote support and development sites.

You can access the following commands through the vad and root accounts:

- img_create
- img_print
- cal_submit

Creating a file with img_create

The img_create command allows you to convert a generic file into a fax file containing T4 fax pages. The command to use in the UNIX shell is as follows:

```
img_create -o<filename> [-h] [-d<dir>] [-l<file>] [-p<size>] [-s]  
filename
```

Note: Parameters in square brackets [] are optional.

The parameters are defined below:

-o<filename> Specifies the name of the output fax file.

-h Prints a help message.

-d<directory> Specifies the base directory name. (This parameter is optional because the utility will fetch this parameter from the Meridian IVR Fax Response system.)

-l<file> Specifies the name of a log file to send all diagnostic output. This parameter is optional. The default is to send all output to stdout/stderr.

-p<size> Specifies a paper size. If this parameter is not used, the default is LETTER. The set of possible values are (LETTER, A4, B4, A3).

-s Generates fax file in standard format resolution. The default is to use fine format.

filename The name of the generic file to be processed.

Example

```
img_create -oletter2.tpl -d/u/fax/data -s letter
```

Action

A fax file called *letter2.tpl* is created from the file *letter* which was located in the */u/fax/data/* directory. The file is generated in standard format.

If the file given to this command is already a fax file, the utility makes a copy of the fax file (plus all associated T4 files) under the name in the *-o* parameter.

Printing a file with `img_print`

The `img_print` command allows you to print one or more fax files on the system's PostScript laser printer. The output is sent directly to the printer queue. The command is as follows:

```
img_print [-h] [-p<printer>] faxdoc [faxdoc#2]...
```

The parameters are defined below:

-h Prints a help message.

-p Specifies the name of a printer to print to. By default, everything is sent to the system default printer.

faxdoc is the name of the fax file to be printed.

Example
img_print letter2.tpl**Action**

The fax file *letter2.tpl* is sent to the lp default printer.

To print a fax file, the PostScript printer must support PostScript level 2, the level 2 “ASCIIFaxDecode” and “CCITTFaxDecode” filters. If none of these filters are supported, the fax is not printed and an error message is printed instead.

If a file that is neither a fax file nor a T4 file is given to this command, the file is printed as a simple text file.

Submitting a file with cal_submit

The cal_submit command enables you to submit a fax file to the Callback queue. The command is as follows:

```
cal_submit -p<phonenumber> [-I<retry interval>] [-a<attempts>]  
[-S<TSI>] [-T<TTI>] [-k] faxdoc
```

The parameters are defined below:

-p<phonenumber> The phone number to which the fax should be sent.

-I<retry interval> The amount of time to wait if a fax fails to be sent before trying to send it again. Defaults to the fax system default.

-a<attempts> The number of attempts that can be made before the system gives up trying to send the document and dequeues the entry. Defaults to the fax system default.

-S<TSI> The Transmit Station ID (TSI) to use. Defaults to the modem default value in modem configuration.

-T<TTI> The TTI line variables to use. If you do not specify the variables, the system uses the default TTI line; %C %t %z %P %f10 %D %F9. For more information on the TTI line, refer to [“TTI line” on page 4-53](#).

-k Deletes the original file after it was sent. The default is to not delete the file after it was sent.

faxdoc The name of the fax file that is to be queued.

Example

cal_submit -p5467000 letter3.tpl

Action

The file “letter3.tpl” is submitted to the callback queue to be sent to the phone number 546-7000.

This command succeeds only when the fax system is up and running; otherwise, the command generates an error message similar to the following:

```
Fax system not running: failed to connect to Call  
Back server
```

Creating a fax cover sheet

Once you are aware of each fax function, you can combine them to create your fax file.

Creating a basic cover sheet

Before beginning to use the vi, draw a sketch of your cover sheet on paper. This should help you to decide which commands and FASCII codes to use.

After you have drawn the sketch, you can create a cover sheet using the Fax View/Edit.

Procedure 4-17**Creating a cover sheet using Fax View/Edit**

- 1** In the UNIX shell, access the vi text editor.
- 2** Name your generic file *cover1*.
- 3** Enter margin values for your cover sheet in the form
MARGIN LEFT 2i
- 4** Specify a font in the form
FONT trom14rn

- 5 Using the **INLINE** keyword, input text and FASCII control codes to design the layout of your cover sheet.

Use the FASCII codes to underline, italicize, or draw boxes around the text.

Use the **ECHO** command to label the FASCII codes.

Example

INDENT 1.0i **INLINE** “\0x22\0x0FH Smith’s Carpet Supply
\0x0EH\0x22\0x0DH”

ECHO # line of text in quotation marks, and underlined, then
carriage return

FONT ssrf10bn

INDENT 0.5i **INLINE** “\0x1EH We’ve got you covered!
\0x1FH\0x0DH”

ECHO # text italicized, indented 0.5i, then carriage return.

Figure 4-24 shows a sample cover sheet in the vi editor.

Figure 4-24
Sample cover sheet in the vi text editor



```
margin top 1.5i
margin left 50p

font ssrf18bn
indent 1i inline "Northern Telecom"

font ssrf16bn
indent 1i inline "\0x19\0x0f\0x12 FAX COVER SHEET \0x0e\0x14\0x17\0x0d\0x0
"
echo # Fax cover sheet surrounded by box, then carriage return twice
margin top 2.5i
font trom12rn

inline "To:\0x0f\0x09\0x09\0x09\0x0e\0x09\0x09 From:\0x0f\0x09\0x09\0x09"
inline "Phone:\0x0f\0x09\0x09\0x09\0x0e\0x09\0x09 Phone:\0x0f\0x09\0x09\0x0
"

inline "Location:\0x0f\0x09\0x09\0x0e\0x09\0x09 Location:\0x0f\0x09\0x09"
inline "Fax:\0x0f\0x09\0x09\0x09\0x0e\0x09\0x09 Fax:\0x0f\0x09\0x09\0x09"

inline "\0x0d"

echo # carriage return

inline "Date:\0x0f\0x09\0x09\0x09\0x09\0x09\0x09\0x0e"

inline "Number of pages sent:\0x0f\0x09\0x09\0x0e"

inline "\0x0d\0x0d\0x0d"
font cour14bf

inline "Comments:"

page fill
```

6 After you have entered the information, exit the text editor.

- 7 From the Fax Main menu, click on the Fax View/Edit button with the left mouse button to position the windows on the desktop.
- 8 In the main View/Edit window, click on File with the left mouse button to access the pull-down menu.
- 9 Click on Trace.
The diagnostic output of your cover sheet appears.
- 10 From the File menu, click on Open with the left mouse button.
The Open document selection window appears.
- 11 In this window, find the directory that contains your text editor file.
- 12 Click on the file name with the left mouse button, or type the name into the Open document selection window, then click on OK.
If the text editor file contains fatal errors, the system does not display an image in the View/Edit windows. Check the Trace window to determine what errors exist.

If the file contains non-fatal errors, the image appears. Check the Trace window for errors.
- 13 To fix errors, or to change formatting, return to the text editor and open the file. Check the output again using Fax View/Edit until you are satisfied.

You have now produced a cover sheet which is a T4 file.

Meridian IVR Fax Response allows you to create T4 fax pages in more than one way. The following section, [Procedure 4-18](#), offers another example for creating cover sheets.

Procedure 4-18 **Creating a cover sheet using img_create**

- 1 Follow steps 1–5 of [Procedure 4-17](#), “Creating a cover sheet using Fax View/Edit”.
- 2 In the UNIX shell, type the img_create command and parameters. For example:

img_create -cover.tpl -d/u/faxdata/ -s cover1

A message appears indicating that the system created file "cover.tpl from the file cover1.

If you open the new file in the vi, you see a line of text similar to the following:

```
FAX3 v4388c533dAAAD
```

You have now created a cover sheet which is a T4 file.

Using the generic file as input to the next generic file

The next step in creating a cover sheet requires using the generic file as input for the next generic file. If you create a new generic file called *cover2*, the file *cover.tpl* will be the input for the generic file.

Procedure 4-19

Propagating a new generic file

- 1 In the UNIX shell, access the vi editor.
- 2 Open a new file and call it *cover2*.
- 3 Use the INLINE keyword, to enter a document title.
Note: You can use trimtab characters in the document title.
- 4 Using the OVERLAY keyword, insert the file "cover.tpl".

Example:

```
OVERLAY 4.5c 0.5c u/fax/fax_data/Cover.tpl
```

- 5 Open the file *cover2* in the Fax View/Edit window.

Notice that the file contains the cover sheet which you created as the file cover, and that the file is located 4.5 centimeters across the page from the left, and 0.5 centimeters down the page.

You have created a basic fax cover sheet to send to a caller with the FSND or CFX cells (see [Figure 4-25](#)).

Figure 4-25
Fax cover sheet in Fax View/Edit

The screenshot shows a window titled "Meridian IVR Fax Response View/Edit". Inside the window, there is a menu bar with "File", "Page", and "Contrast". Below the menu bar, the text "/sdisk/faxdata/VE395461e9AAAH" and "Page 1 of 1" are displayed on the left, and the "NORTEL" logo is on the right. The main area of the window contains a form titled "Northern Telecom [FAX COVER SHEET]". The form has two columns of fields: "To:", "Phone:", "Location:", and "Fax:" on the left; and "From:", "Phone:", "Location:", and "Fax:" on the right. Below these columns are fields for "Date:", "Number of pages sent:", and "Comments:".

Meridian IVR Fax Response View/Edit

File Page Contrast

/sdisk/faxdata/VE395461e9AAAH
Page 1 of 1

NORTEL

Northern Telecom
[FAX COVER SHEET]

To: _____ From: _____
Phone: _____ Phone: _____
Location: _____ Location: _____
Fax: _____ Fax: _____

Date: _____
Number of pages sent: _____
Comments: _____